

NEW SPECIES OF BUPRESTIDAE (COLEOPTERA) FROM THE
DOMINICAN REPUBLIC

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Abstract.—Three species of Buprestidae are newly described, illustrated, and distinguished from other Antillean and closely related species in their respective genera: *Sambomorpha clarki*, *Agrilus klapperichi*, and *Neotrachys bilyi*. Additional records are given for *Acmaeodera cruenta* (Olivier), *Chrysobothris haitiensis* Fisher, *Taphrocerus haitiensis* Fisher, *Leiopleura darlingtoni* Fisher and *L. gibbipennis* (Fisher). A list of Hispaniolan Buprestidae is given in a table.

Key Words: *Agrilus*, biogeography, distribution, Hispaniola, *Neotrachys*, *Sambomorpha*

Recent collections, primarily in the Dominican Republic, show the buprestid fauna of Hispaniola to be relatively poorly known, especially for smaller species. This paper describes three new species, reports recent collections of previously described species, and gives a checklist of forms currently known to occur on the island. Additional specimens in the Mastogeninae have been seen but remain undetermined.

The following species appear not to be described:

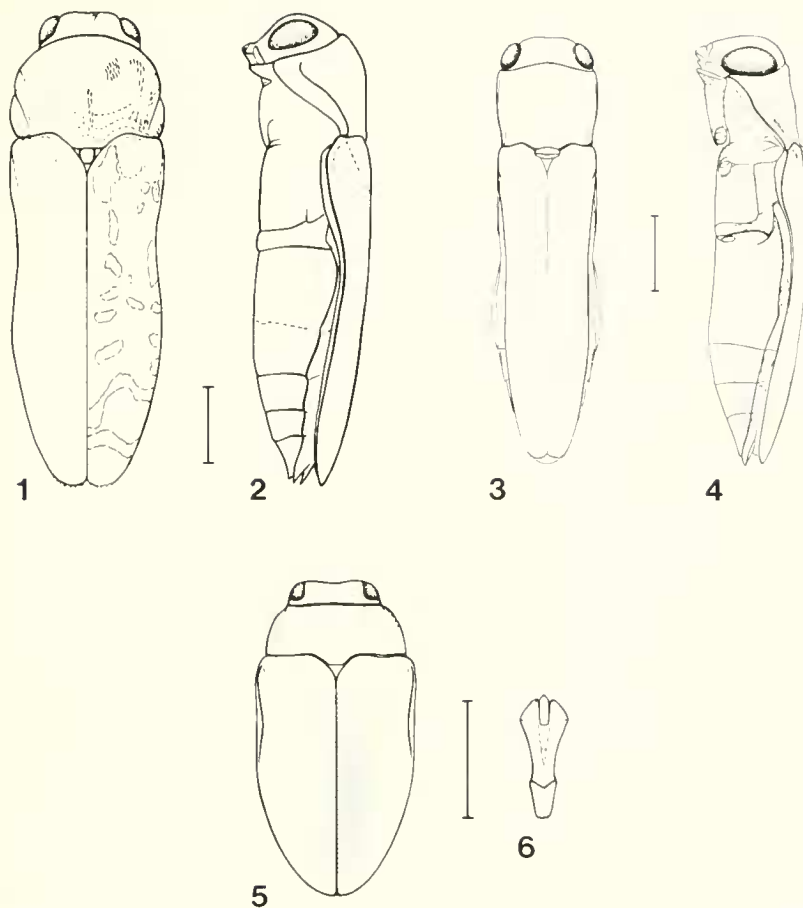
Sambomorpha clarki, NEW SPECIES
(Figs. 1, 2)

Description.—Holotype, probably female: Length 6.4 mm, width 2.1 mm; dorsoventrally somewhat flattened, strongly so above; moderately shining; head, pronotum and scutellum purplish red, darker on pronotum postero-medially, more aeneous on anterior angles, elytra dark reddish purple, more reddish at base and on margins; pronotum ornamented with patches of elongate white setae in anterior and posterior angles, along basal $\frac{1}{2}$ of midline and in spots on anterior margin $\frac{1}{3}$ the distance to margin, elytra ornamented with white setae

in a broken line of spots on either side of suture and along lateral margin on basal $\frac{2}{3}$ and in two irregular transverse fascia at apical $\frac{3}{4}$ and near apex; otherwise with long, thin, dark setae; beneath purplish with golden reflections.

Head with front shallowly depressed along midline, with indistinct convexities on either side of midline at middle of eye; surface nearly smooth on dorsal $\frac{1}{2}$, especially medially, weakly rugose on ventral $\frac{1}{2}$; sparsely clothed with long white setae dorsally, with shorter, denser setae along midline on ventral $\frac{1}{2}$; epistoma narrow between antennae, faintly carinate along midline to base, angulately emarginate along base; antennae reaching only anterior $\frac{1}{3}$ of pronotal length, serrate from the fifth segment, outer joints rounded-triangular; eyes small, broadly oval, wider ventrally.

Pronotum $1\frac{3}{4}$ wider than long, widest just anterior to base; sides slightly sinuate then narrowed to apical angles, posterior angles narrowly rounded-obtuse; when viewed from side lateral margin sinuate, strongly produced, especially for anterior $\frac{1}{2}$; anterior margin broadly rounded; base with narrow, smooth margin, angulate-emarginate at



Figs. 1–6. Figs. 1, 2. *Sambomorpha clarki*, n. sp.; line equals 1 mm. 1, dorsal view. 2, lateral view. Figs. 3, 4. *Agrilus klapperichi*, n. sp.; line equals 1 mm. 3, dorsal view. 4, lateral view. Figs. 5, 6. *Neotrachys bilyi*, n. sp. 5, dorsal view, holotype—shading indicates area of dark violet; line equals 1 mm. 6, genitalia, allotype; line equals 0.5 mm.

middle of each elytron, median lobe moderately produced and truncate in front of scutellum; disk broadly convex anteriorly, transversely depressed on each side at base, strongly so interior to prehumeral carinae to anterior angles; prehumeral carinae very strong, parallel to lateral margin, extending from basal margin nearly to anterior margin of pronotum; narrowly depressed between carina and margin; surface somewhat finely imbricate-punctate, intervals smooth. Scutellum nearly flat, smooth.

Elytra slightly wider than pronotum at base; sides shallowly constricted then slight-

ly expanded to middle, then gradually narrowed to broadly, separately rounded and denticulate tips; sides of abdomen slightly exposed above; disk strongly flattened, with rather strong transverse basal depressions; surface finely imbricate-punctate.

Prosternum confluent-punctate, uniformly, sparsely clothed with long, white, recumbent setae, deeply transversely depressed at base of prosternal lobe, which is declivous and broadly, arcuately emarginate; sides of prosternal process converging gradually to behind coxal cavities, then acutely angulate. Abdomen convex ven-

trally, marked with transverse crenulate lines; sparsely, uniformly clothed with fine, white, recumbent setae, and small spots of denser setae on antero-lateral portions of segments 2-4; suture between first and second segments indicated only at sides; last segment broadly, shallowly emarginate at apex. Tibiae nearly straight, armed with a small, thin spine on inner margin at apices; anterior tibiae denticulate on outer margin at base. Tarsal segments equal; tarsal claws similar on all feet, cleft at base, inner tooth straight, much shorter than outer one.

Holotype.—Rep. Dominicana, Bani, 30.IX.1985, W. E. Clark, to be deposited in USNM.

The genus *Sambomorpha* was described by Obenberger (1924) for a single species from southeastern Brasil. All members of the genus most obviously share the dorso-ventrally depressed body form, strong and sinuate prehumeral carinae on the pronotum, and similar diffuse patterns of pubescence on the elytra. I have recently (Hespenheide 1979) transferred to the genus a second Brazilian species described originally as an *Agrilus*, and have seen undescribed material from Mexico. *Sambomorpha clarki* can be distinguished from both Brazilian species by the absence of a posthumeral carina on the elytra, color, and somewhat larger size; and from the Mexican forms by its color and more definite pattern of pubescence on the elytra. *Sambomorpha* shares its rather widely disjunct and unusual distribution in the New World (Hispaniola, Mexico, southeastern Brasil), presumably a relictual one, with the genus *Tetragonoschema*. *Cyphothorax* shows a similar disjunct range between Mexico and southeastern Brasil. The type appears to be a female, although it was not dissected.

***Agrilus klapperichi*, NEW SPECIES**
(Figs. 3, 4)

Description.—Holotype female: Length 5.9 mm, width 1.4 mm; moderately elongate and robust, strongly flattened above;

weakly shining, black, head, sides of pronotum, and ventral surfaces with bronzy reflections; elytra ornamented with five pairs of small pubescent spots.

Head with the front wide, a small transverse depression below middle and a narrow one along midline above and below middle, lateral margins nearly straight; surface moderately rugose, clothed with moderately long setae which radiate from the central depression, becoming very short on occiput; epistoma moderately wide between the antennae, shallowly emarginate along base; antennae serrate from the fourth segment, outer joints triangular; eyes about equally rounded above and below.

Pronotum slightly wider than long, subequal at base and apex, widest at apical $\frac{1}{4}$; sides subparallel at base, shallowly convex to apical angles; posterior angles nearly perpendicular; when viewed from side marginal and submarginal carinae narrowly separated for their entire length, more broadly so at apex, weakly sinuate; anterior margin sinuate, median lobe moderately produced and broadly rounded; base angularly emarginate at middle of each elytron, median lobe slightly produced and weakly emarginate in front of scutellum; disk shallowly convex, depressed on each side at base, strongly so at anterior angles, two shallow transverse medial depressions and depressed along midline for basal $\frac{1}{2}$; prehumeral carinae subparallel with and narrowly separated from lateral margin, extending for basal $\frac{1}{2}$ of pronotum; surface rather finely, transversely rugose, impunctate, setae short and inconspicuous on disc, longer and more conspicuous just interior to prehumeral carinae and lateral margins. Scutellum strongly transversely carinate, surface shagreened.

Elytra subequal to pronotum at base, widest at humeri; sides very shallowly constricted and then slightly widened to apical $\frac{1}{3}$, then gradually narrowed to tips, which are separately rounded and finely toothed; sides of abdomen exposed dorsally; disk with moderate basal depressions and shallowly

depressed along sutural margins, except just behind scutellum; surface rather finely imbricate-punctate, uniformly clothed with short setae, each elytron ornamented with five small round spots of denser setae: in basal depression, along suture at basal $\frac{1}{3}$, $\frac{2}{3}$, and near apices, and near sides just beyond middle.

Posterior coxae nearly straight on posterior margin. Abdomen with suture between first and second segments distinctly indicated at sides; anterior vertical portions of segments 2, 3, and 4 ornamented with oval spots of longer setae; dorsal portions of segments 1, 3, and 4 densely setose. Tibiae unarmed. Posterior tarsi shorter than tibiae, first joint subequal to following three united. Tarsal claws similar on all feet, cleft with inner tooth subparallel to and shorter than outer one.

Holotype.—Rep. Dominicana, Bani, 30.IX.1972, J. & S. Klapperich (Basel).

Agrilus klapperichi is quite different from the other, much larger species of *Agrilus* (*A. dominicanus* Thomson, related to *A. macer* LeConte) known from Hispaniola (Fisher 1925). *A. klapperichi* appears to be related to the group of species that in the United States includes *A. obsoletoguttatus* Gory, *A. exsapindi* Vogt, *A. limpiae* Knull, *A. scitulus* Horn and *A. taeniatus* Chevrolat. Among Central American species, *A. klapperichi* appears most closely related to *A. simlulans* Waterhouse, *A. femoralis* Waterhouse and *A. antennatus* Waterhouse. All of these species are characterized by similar patterns of pubescence on the elytra and ventral body surfaces and by sexual dimorphism in the antennae, in which males tend to have antennae which are relatively more elongate and occasionally modified otherwise. The characters which are unique to *A. klapperichi* compared to the North and Central American species mentioned above are (a) the prehumeral carina subparallel with the marginal carina, (b) the separation of the marginal and submarginal carinae of the pronotum for their entire length, and (c) the

transverse medial depression on the front. Because the specimen is mounted venter down on a card, characters on the ventral surface could not be described.

Neotrachys bilyi, NEW SPECIES
(Figs. 5, 6)

Holotype female.—Length 2.75 mm, width 1.3 mm; oval, moderately convex, rounded-quadrate in front, attenuate posteriorly; inconspicuously short pubescent; moderately shining and strongly shagreened; head, pronotum and humeri greenish blue, elytra blue, becoming dark violet blue on inner apical $\frac{1}{2}$ along suture and beyond basal $\frac{1}{3}$; beneath black.

Head depressed on front along midline between eyes and with transverse depression between epistomal pores; epistomal pores moderate in size; surface moderately densely ocellate-punctate, punctures less dense and finer between eyes; intervals shagreened; epistoma with anterior margin very shallowly angulate-emarginate; subocular pores large; antennae with 6th segment slightly produced below, conspicuously serrate only from 7th segment.

Pronotum moderately convex, about $2\frac{1}{2}$ times as wide as long, distinctly narrower in front than behind, widest at base; sides arcuately rounded from base, more strongly so at anterior angles, narrowly margined; anterior angles obtuse; posterior angles perpendicular; anterior margin nearly transverse, with obsolete lobe at middle; posterior margin transversely feebly sinuate with strong subtruncate median lobe before scutellum; surface shallowly depressed along basal margin and more strongly so at anterior angles; rather densely ocellate-punctate along margins, more densely so in posterior angles, more finely, simply and less densely so on disk; intervals strongly shagreened. Scutellum small.

Elytra moderately convex, wider than pronotum at base; humeral angles broadly rounded-quadrate; sides nearly parallel to middle, then shallowly attenuate to con-

jointly, rather narrowly rounded tips; each elytron with small, shallow depression at base interior to humerus, a deep, narrow, elongate one behind humerus along lateral margin, and an elongate, shallow one along suture for posterior $\frac{2}{3}$; surface regularly punctate, intervals strongly shagreened.

Prosternum sparsely, faintly ocellate-punctate, intervals smooth, greenish-blue; anterior margin shallowly arcuate; prosternal process moderately broad, broadened slightly behind coxal cavities, and broadly, rounded-quadrate at apex. Hind coxae depressed along their length, broadly, shallowly biemarginate with broadly, obtusely rounded projection dorsal to attachment of hind legs. Abdomen beneath with dense, large, shallow, fine ocellate punctures, which are elongate and denser at base and sides of first segment, sparser and more rounded on segments 2-5; intervals densely, finely, obsoletely reticulate-striolate.

Allotype male: Similar to female, except bright golden-green above, with darker golden coppery reflections on top of head, disk of pronotum, and central portions of each elytron.

Holotype.—Rep. Dominicana, Cazabita, 1250 m, 15.VIII.1972, J. & S. Klapperich (Basel).

Allotype.—Dominican Rep., La Vega, 15 km E of El Rio, 26.V.1978, C. W. & L. B. O'Brien & Marshall (USNM).

Neotrachys bilyi differs strikingly in appearance from most other Antillean *Neotrachys* treated in the revision of the genus (Hespenheide 1980). Although proportioned like *N. dominicanus*, *N. fennahi* and *N. guadeloupensis*, it is conspicuously shagreened (or granular reticulate) like *N. hoffmani*. The color of the holotype, that is, greenish-blue anteriorly shading to deep violet-blue on the inner posterior portions of the elytra, is unique among the Antillean species. The male is less strikingly colored and is similar to some individuals of *Neotrachys* from Puerto Rico. It is not clear

whether these latter specimens represent *N. hoffmani*, in which case that species is more variable than originally treated, or whether they belong to a second, undescribed Puerto Rican species; additional specimens are needed to determine which is the case. *N. bilyi* can be separated from these questionable forms as follows:

	<i>N. bilyi</i>	<i>N. (hoffmani?)</i>
dorsal setae	minute	conspicuous
subocular pores	large	inconspicuous
pronotum	broader, shorter	narrower, more elongate
elytral intervals	strongly shagreened	mostly smooth
posterior margin, hind coxae	biemarginate	nearly straight
distribution	Hispaniola	Puerto Rico

N. bilyi is readily distinguished from typical *N. hoffmani*, which are strongly depressed along the lateral margins of the elytra near the middle and dark olive green in color. The characteristics in the table separate *N. bilyi* from all Central American species as well (Hespenheide 1982).

The beetle is named in honor of Svato-pluk Bílý, who allowed me to see and describe this and the preceding species.

The following species are represented by additional distributional data:

Acmaeodera cruenta (Olivier)

Specimens examined.—Dominican Republic: 6.5 mi W Azua, 13.VI.1968, H. A. Hespenheide, on *Prosopis* (RLWC); Peravia, 6 km W Bani, 4, 15.IX.1983, W. E. Clark (AUBU, CHAH).

Chrysobothris haitiensis Fisher, 1930:7

Specimens examined: Dominican Republic: Boca Chica, 10 m, 4.XI.1972, Klapperich (Basel); Bani, 31.III.1973, Klapperich (Basel); Barahona, 6 km NW Fundacion, 1.IX.1983, W. E. Clark (AUBU); Peravia, 13 km NW Bani, 6.VIII.1979, C. W. O'Brien (CHAH).

Table 1. Checklist of species of Buprestidae recorded from Hispaniola. Literature citations are given only for those species described or reported since Fisher's (1925) monograph of Antillean Buprestidae.

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- Polycesta fisheri* Obenberger, 1936:105
insulana Fisher, 1930:125
regularis Waterhouse?—type locality uncertain (Fisher 1925)
porcata (Fabricius)
Paratyndaris antillarum Fisher, 1939:156
Acmaeodera cruenta (Olivier)
Hilarotes nitidicollis (Laporte & Gory)
mannerheimi (Mannerheim)
Psiloptera aurata (Saunders)
aurata var. *domingoensis* Fisher, 1930:126
aurifer (Olivier)
Dicerca divaricata (Say)—introduced? (Fisher 1925)
Cinyra albonotata (Laporte & Gory)
Buprestis hispaniolae Fisher, 1939:157
striata Fabricius
maculativentris Say
Mixochlorus elegans Fisher
Peronaemis insulicola Fisher, 1939:159
Melanophila acuminata (Deg.)—Blackwelder 1944: 313
Tetragonoschema quadrata (Buquet)
Chrysobothris tranquebarica (Gmelin)
dentipes (Germar)
haitiensis Fisher, 1930:7
megacephala Laporte & Gory
chlorosticta Thomson
parvofoveata Fisher
hispaniolae Fisher
Actenodes bellula Mannerheim
embrik-strandi Obenberger, 1936:138
nobilis (Linnaeus)—Fisher 1930:127
Sambomorpha clarki, n. sp.—this study
Agrilus dominicanus Thomson
klapperichi n. sp.—this study
Taphrocerus haitiensis Fisher, 1949:348
Leiopleura darlingtoni Fisher, 1939:162
gibbipennis (Fisher), 1939:160
Neotrachys bilyi n. sp.—this study
Micrasta hispaniolae Fisher, 1939:166
monticola Fisher, 1939:165
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Taphrocerus haitiensis Fisher, 1949:348

Specimens examined: Rep. Dominicana: Boca Chica, 10 m, 5.X.1970, 29.XI.1970, Klapperich (Basel); Bani, 65 m, 30.IV.1974, Klapperich (Basel); La Altag., 31 km N Higüey, I.VIII.1979, G. B. Marshall (CHAH).

Leiopleura darlingtoni Fisher, 1939:162

Specimen examined: Dominican Republic: La Culata (La Vega), 1500 m, 18.III.1978, H. and A. Howden (CHAH).

Leiopleura gibbipennis (Fisher), 1939:160

Specimens examined: Dominican Republic: Boca Chica, 10 m, 5.X.1970, 29.XI.1970, Klapperich (Basel).

With the addition of the three species described above, the total fauna of Buprestidae reported from Hispaniola stands at 39, of which one is probably introduced and a second is questionable. Table 1 presents the list of species reported to date.

ACKNOWLEDGMENTS

The author (CHAH) is indebted to Svatoopluk Bílý of the Natural History Museum of the National Museum, Prague, Czechoslovakia (NMPC); Ronald D. Cave and Wayne E. Clark of Auburn University (AUBU); Henry F. Howden (HAHC) of Carleton University, Ottawa, Canada; John Kingsolver of the U.S. National Museum (USNM); Charles W. and Lois B. O'Brien of Florida A&M University; and Gayle H. Nelson (GHNC) for loaning specimens. Gayle H. Nelson also determined *Chrysobothris haitiensis* Fisher and commented on a draft of the manuscript. Financial assistance was provided in part by the UCLA Academic Senate. Margaret Kowalczyk prepared the final illustrations.

LITERATURE CITED

- Blackwelder, R. E. 1944. Checklist of the coleopterous insects of Mexico, Central America, the West Indies, and South America. Part 2. U.S. Natl. Mus. Bull. 185: 187–341.
- Fisher, W. S. 1925. A revision of the West Indian Coleoptera of the family Buprestidae. Proc. U.S. Natl. Mus. 65(9): 1–207.
- . 1930. New West Indian Buprestidae (Coleoptera). Proc. Entomol. Soc. Washington. 32: 125–129.
- . 1930. New West Indian Buprestidae and Cerambycidae (Coleoptera). Can. Entomol. 62: 7–11.

- . 1939. New West Indian buprestid beetles. *Psyche* 46: 156-166.
- . 1949. New buprestid beetles from Mexico, Central and South America, and the West Indies. *Proc. U.S. Natl. Mus.* 99: 327-351.
- Hespenheide, H. A. 1979. Nomenclatural notes on the Agrilinae (Buprestidae): IV. *Coleopts. Bull.* 33: 105-120.
- . 1980. A revision of Antillean *Neotrachys* (Coleoptera, Buprestidae). *J. Kansas Entomol. Soc.* 53: 815-824.
- . 1982. A revision of Central American species of *Neotrachys* (Buprestidae). *Coleopts. Bull.* 36: 328-349.
- Obenberger, J. 1924. Deuxieme serie de nouveaux genres de buprestides. *Sbornik Entomol. Odd. Nar. Mus. Praha* 2: 7-44.
- . 1936. Eine Festschrift zum sechzigjarigen Jubiläum meines Freundes Univ.-Prof. Dr. Embrik Strand. *Fest.-schr.* 60. Geburtstag E. Strand. 1: 97-145.